| - | 219 | (((solder ad) (bump ball)) and metallurgy) | USPAT: | 2002/06/13 08:31 |
|---|-------|--|-----------|------------------|
| | | and barrier) not ((((ubm barrier blm (ball | US-PGPUB; | 2002/00/13 00.31 |
| | 1 | adj limiting adj metallurgy) (under adj | EPO; JPO; | |
| | | bump adj metallurgy))) near3 ((cu near1 | DERWENT | 1 |
| | | (ti ni)) (copper near (titanium nikel)))) | DEWMENT | 1 |
| | 1 | (((ubm (ball adj limiting adj metallurgy) | | 1 |
| | | (under adj bump adj metallurgy)) and | | |
| | l | barrier) and (257/772 257/773 257/776 | | 1 |
| | | | | |
| | 1 | 257/779 257/780)) (((257/772 257/773 | | 1 |
| | | 257/776 257/779 257/780) and ((ubm (ball | | |
| | | adj limiting adj metallurgy) (under adj | | 1 |
| | | bump adj metallurgy)))) not (((ubm (ball | | |
| | | adj limiting adj metallurgy) (under adj | | 1 |
| | | bump adj metallurgy)) and barrier) and | | 1 |
| | | (257/772 257/773 257/776 257/779 | | |
| | | 257/780))) (((257/772 257/773 257/776 | | 1 |
| | | 257/779 257/780) and (barrier adj layer)) | į . | |
| | | and metallurgy)) | | 1 |
| - | 10 | ("4495222" "4761386" "4933305" | USPAT | 2002/06/13 08:35 |
| | 1 | "5130779" "5284797" "5350488" | | I . |
| | | "5384284" "5403777" "5567654" | | T. |
| | Y | "6133136").PN. | | 1 |
| - | 5 | ("4434434" "5268072" "5629564" | USPAT | 2002/06/13 08:36 |
| | 1 | "5785236" "5795819").PN. | | 1 |
| - | 15 | 4761386.URPN. | USPAT | 2002/06/13 08:38 |
| - | 5 | ("3806361" "4106051" "4109275" | USPAT | 2002/06/13 08:40 |
| | | "4149301" "4628590").PN. | | |
| - | 0 | 6333559.URPN. | USPAT | 2002/06/13 08:40 |
| - | 10 | 5384283.URPN. | USPAT | 2002/06/13 08:46 |
| - | 8 | "5872399" | USPAT; | 2002/06/13 08:53 |
| | | | US-PGPUB; | |
| | | | EPO; JPO; | |
| | | | DERWENT | |
| - | 5 | ("5504277" "5521435" "5557844" | USPAT | 2002/06/13 08:55 |
| | | "5668405" "5669783").PN. | | 1 |
| - | 543 | (ubm (underbump near metallization) (ball | USPAT: | 2003/03/13 08:11 |
| | | nearl metallurgy) (under adj bump adj | US-PGPUB: | 2000,00,20 00123 |
| | | metallurgy)) | EPO; JPO; | 1 |
| | | | DERWENT | 1 |
| - | 387 | ((ubm (underbump near metallization)(ball | USPAT: | 2003/03/12 10:46 |
| | | nearl metallurgy) (under adj bump adj | US-PGPUB; | 2003/03/12 10:40 |
| | | metallurgy))) and (ti titanium chrom cr | EPO; JPO; | k |
| | 1 | nickel ni gold au copper cu) | DERWENT | |
| _ | 118 | | USPAT; | 2003/03/12 10:48 |
| | 110 | nearl metallurgy) (under adj bump adj | US-PGPUB; | 2003/03/12 10.40 |
| | 1 | metallurgy))) and (ti titanium chrom cr | EPO; JPO; | 1 |
| | 4 | nickel ni gold au copper cu)) and (ti | DERWENT | 1 |
| | T . | titanium) and (nickel ni) and (gold au) | CPE/METAT | |
| _ | 26 | (((ubm (underbump near metallization)(ball | HODAM. | 2003/03/12 10:49 |
| | 20 | nearl metallurgy) (under adj bump adj | USPAT; | 2003/03/12 10:45 |
| | | metallurgy))) and (ti titanium) and | US-PGPUB; | |
| | | | EPO; JPO; | 4 |
| | | (nickel ni) and (gold au)) and (angstroms | DERWENT | 1 |
| | | micrometer) | | N |
| - | 118 | | USPAT; | 2003/03/13 08:16 |
| | 1 | nearl metallurgy) (under adj bump adj | US-PGPUB; | |
| | | metallurgy))) and (ti titanium) and | EPO; JPO; | 4 |
| | 1 | (nickel ni) and (gold au) | DERWENT | 1 |
| - | 0 | 6489229.URPN. | USPAT | 2003/03/12 12:09 |
| - | 10 | ("3458925" "4434434" "4516525" | USPAT | 2003/03/12 12:09 |
| | k 111 | "4622205" "4646958" "5137845" | | |
| | 1 | "5470787" "6107180" "6184061" | | 1 |
| | | "6417089").PN. | | |
| - | 4 | ("5349500" "5902686" "6251766" | USPAT | 2003/03/12 13:47 |
| | | "6258703").PN. | | |
| - | 10 | ("3663184" "4661375" "5162257" | USPAT | 2003/03/12 13:48 |
| | 1 | "5376584" "5480835" "5492235" | 1 | |
| | (| "5736456" "5767010" "5773359" | | 1 |
| | | "6133136").PN. | | |

| - | 27 | ((ubm (underbump near metallization)(ball near1 metallurgy) (under adj bump adj | USPAT; US-PGPUB; | 2003/03/12 | 16:13 |
|---|------|--|------------------------|-------------|-------|
| | | metallurgy))) with (ti titanium) with | EPO; JPO; | 1 | |
| | | (nickel ni) with (gold au) | DERWENT | | |
| - | | 6348399.URPN. | USPAT | 2003/03/12 | |
| - | 2 | 6348399.URPN. | USPAT | 2003/03/12 | |
| _ | 9 | ("5323051" "5620928" "5656550" "5830800" "5925936" "5930603" | USPAT | 2003/03/12 | 10:19 |
| | | "6004867" "6204559" "6238952").PN. | 1 | | |
| - | 2 | 6348399.URPN. | USPAT | 2003/03/13 | 07:58 |
| - | 9 | ("5323051" "5620928" "5656550" "5830800" "5925936" "5930603" | USPAT | 2003/03/13 | 07:59 |
| | | "5830800" "5925936" "5930603" | | 1 | |
| _ | 2617 | "6004867" "6204559" "6238952").PN. (ubm (underbump nearl metallization) blm | USPAT; | 2003/03/14 | 00.45 |
| | 2017 | plm ((ball pad) near1 metallurgy) (under | US-PGPUB; | 2003/03/14 | 00:45 |
| | | adj bump adj metallurgy)) | EPO; JPO; | | |
| | | | DERWENT | 1 | |
| - | 28 | | USPAT; | 2003/03/13 | 10:20 |
| | ì | plm ((ball pad) near1 metallurgy) (under | US-PGPUB; | | |
| | | adj bump adj metallurgy))) with (ti | EPO; JPO; DERWENT | 1 | |
| _ | 1 | titanium) with (nickel ni) with (gold au) 6179200.URPN. | USPAT | 2003/03/13 | 08.23 |
| - | 7 | ("5493075" "5535936" "5607099" | USPAT | 2003/03/13 | |
| | | "5658827" "5775569" "5791552" | | | |
| | ļ | "5825629").PN. | | | |
| - | 26 | "5298459" | USPAT; | 2003/03/13 | 08:33 |
| | | | US-PGPUB; | | |
| | ļ | | EPO; JPO; DERWENT | | |
| - | 28 | "5268072" | USPAT: | 2003/03/13 | 08:34 |
| | 1 | 3200012 | US-PGPUB; | 2.003/03/13 | 00.54 |
| | | | EPO; JPO; | 1 | |
| | 1 | | DERWENT | | |
| - | 61 | ("5298459" "5268072") not6 | USPAT; | 2003/03/13 | 08:34 |
| | | | US-PGPUB; EPO; JPO; | | |
| | 1 | | DERWENT | | |
| - | 48 | ("5298459" "5268072") not (((ubm | USPAT; | 2003/03/13 | 08:34 |
| | | (underbump near1 metallization) blm plm | US-PGPUB; | 1 | |
| | | ((ball pad) nearl metallurgy) (under ad) | EPO; JPO; | | |
| | - | bump adj metallurgy))) with (ti titanium) | DERWENT | | |
| _ | 48 | with (nickel ni) with (gold au)) "5298459" "5268072" | USPAT; | 2003/03/13 | 00.35 |
| | 1 | 0250105 0200072 | US-PGPUB; | 2.003/03/13 | 00.55 |
| | ì | | EPO; JPO; | | |
| | | | DERWENT | 1 | |
| - | 15 | ("5298459" "5268072") and (ti titanium) | USPAT; | 2003/03/13 | 09:02 |
| | | and (nickel ni) and (gold au) | US-PGPUB; EPO; JPO; | | |
| | 1 | | DERWENT | | |
| - | 18 | ("4582745" "5137845" "5268072" | USPAT | 2003/03/13 | 08:36 |
| | | "5418186" "5445705" "5456788" | 1 | 1 | |
| | 1 | "5462638" "5543032" "5629564" | l | į. | |
| | 1 | "5705428" "5767010" "5775569" | | | |
| | 1 | "5902686" "5937320" "5946590" "6015505" "6025649" "6130170").PN. | 1 | | |
| _ | 3 | "6387793" | USPAT; | 2003/03/13 | 09:02 |
| | 1 | | US-PGPUB; | | |
| | İ | | EPO; JPO; | | |
| | i | | DERWENT | 1 | |
| - | 10 | ("3663184" "4661375" "5162257" | USPAT | 2003/03/13 | 09:02 |
| | | "5376584" "5480835" "5492235" "5736456" "5767010" "5773359" | | | |
| | | "6133136").PN. | | | |
| _ | 30 | | USPAT | 2003/03/13 | 09:49 |
| - | 13 | 4514751.URPN. | USPAT | 2003/03/13 | 09:50 |
| - | 7 | ("3037180" "3141226" "3287612" | USPAT | 2003/03/13 | 09:55 |
| | 1 | "3361592" "3395993" "3409809" | | | |
| | | "3480412").PN. | | L | |

| - | 83 | ((ubm (underbump near1 metallization) blm | USPAT; | 2003/03/13 10:21 |
|----------------|------|--|------------------------|------------------|
| | 1 | plm ((ball pad) nearl metallurgy) (under | US-PGPUB; | 1 |
| | 1 | adj bump adj metallurgy))) and ((ti | EPO; JPO; | 1 |
| ļ | | titanium) with (nickel ni) with (gold au)) | DERWENT | |
| ļ - | 55 | (((ubm (underbump near1 metallization) blm | USPAT; | 2003/03/13 12:33 |
| i | 1 | plm ((ball pad) nearl metallurgy) (under | US-PGPUB; | 1 |
| | i | adj bump adj metallurgy))) and ((ti | EPO; JPO; | 1 |
| 1 | | titanium) with (nickel ni) with (gold au))) not (((ubm (underbump nearl | DERWENT | } |
| | 1 | metallization) blm plm ((ball pad) near1 | 1 | |
| 1 | | metallurgy) (under adj bump adj | ĺ | Į. |
| } | 1 | metallurgy))) with (ti titanium) with | | l . |
| | | (nickel ni) with (gold au)) | | i |
| _ | | 6333559.URPN. | USPAT | 2003/03/13 14:50 |
| l - | 10 | ("4495222" "4761386" "4933305" | USPAT | 2003/03/13 14:50 |
| | | "5130779" "5284797" "5350488" | | 1 |
| ĺ | | "5384284" "5403777" "5567654" | | |
| 1 |) | "6133136").PN. | | |
| - | 8 | "6187680" | USPAT; | 2003/03/13 15:24 |
| i | 1 | | US-PGPUB; | |
| | 1 | | EPO; JPO; | 1 |
| İ | į. | | DERWENT | 1 |
| - | 4 | ("5136364" "6107170" "6133136" | USPAT | 2003/03/13 15:24 |
| i | 1 | "6187680" "2002/0003302").PN. | | |
| - | 21 | 5136364.URPN. | USPAT | 2003/03/13 15:28 |
| i - | 4 | ("5136364" "6107170" "6133136" | USPAT | 2003/03/13 15:32 |
| 1 | | "6187680" "2002/0003302").PN. | | |
| - | 5 | 6187680.URPN. | USPAT | 2003/03/13 16:19 |
| - | 9 | ("4495222" "4761386" "4933305" | USPAT | 2003/03/13 16:19 |
| 1 | | "5284797" "5350488" "5384284" | | 1 |
| | 2617 | "5403777" "5416278" "5567654").PN. | | |
| - | 2617 | (ubm (underbump near metallization) blm | USPAT; | 2003/03/14 09:49 |
| | 1 | plm ((ball pad) near1 metallurgy) (under adj bump adj metallurgy)) | US-PGPUB; | Į. |
| | 1 | adj pump adj metallurgy)) | EPO; JPO; DERWENT | 1 |
| _ | 70 | al adj stack | USPAT; | 2003/03/14 08:49 |
| | ,,, | ar auj stack | US-PGPUB; | 2003/03/14 08:49 |
| | 1 | | EPO; JPO; | 1 |
| 1 | | | DERWENT | 1 |
| - | 0 | ((ubm (underbump near metallization) blm | USPAT; | 2003/03/14 08:49 |
| 1 | | plm ((ball pad) near1 metallurgy) (under | US-PGPUB; | 2000,00,11 |
| 1 | ĺ | adj bump adj metallurgy))) with (al adj | EPO; JPO; | 1 |
| | i | stack) | DERWENT | (|
| _ | 873 | al near2 stack | USPAT; | 2003/03/14 08:49 |
| ! | 1 | | US-PGPUB; | |
| | 1 | | EPO; JPO; | 1 |
| 1 | 1 | | DERWENT | 1 |
| - | 0 | ((ubm (underbump near metallization) blm | USPAT; | 2003/03/14 08:49 |
| 1 | l | plm ((ball pad) near1 metallurgy) (under | US-PGPUB; | |
| 1 | i | adj bump adj metallurgy))) with (al near2 | EPO; JFO; | |
| 1 | i | stack) | DERWENT | |
| - | 4 | ((ubm (underbump near metallization) blm | USPAT; | 2003/03/14 09:02 |
| | | plm ((ball pad) nearl metallurgy) (under | US-PGPUB; | |
| 1 | | adj bump adj metallurgy))) and (al near2 | EPO; JPO; | 1 |
|] | | stack) | DERWENT | 1 |
| 1 - | 5 | 6187680.URPN. | USPAT | 2003/03/14 08:53 |
| 1- | 6257 | plated nearl through nearl hole | USPAT; | 2003/03/14 09:03 |
| 1 | | | US-PGPUB; | |
| | | | EPO; JPO; | l |
| ! _ ! | | (plated poars through poars hale) | DERWENT | 2002/02/14 00:00 |
| | | (plated near1 through near1 hole) and ((embedding embedded) with (screen adj | USPAT; | 2003/03/14 09:03 |
| | | ((embedding embedded) with (screen ad) | US-PGPUB; EPO; JPO; | |
| 1 | | brincing)) | DERWENT | |
| _ | 138 | (embedding embedded) with (screen adj | USPAT; | 2003/03/14 09:11 |
| | 130 | printing) | US-PGPUB; | 2003/03/14 09:11 |
| | | Francaid, | EPO; JPO; | |
| | | | DERWENT | |
| | | | APT/MENT | |

| | | | TIODAM. | 10002/02/14 00 00 |
|---|-----|--|-----------------------------------|-------------------|
| _ | 0 | ((embedding embedded) with (screen adj printing)) with "or" | USPAT; US-PGPUB; EPO; JPO; | 2003/03/14 09:06 |
| - | 0 | ((embedding embedded) with (screen adj | DERWENT USPAT; | 2003/03/14 09:11 |
| | | printing)) with cvd | US-PGPUB; EPO; JPO; | |
| - | 0 | (plated near1 through near1 hole) with cvd | DERWENT USPAT; | 2003/03/14 09:11 |
| | | | US-PGPUB; EPO; JPO; DERWENT | |
| _ | 0 | 6451681,URPN. | USPAT | 2003/03/14 09:16 |
| - | 6 | ("5134460" "5731624" "5795819" | USPAT | 2003/03/14 09:16 |
| | | "5864946" "6133136" "6187680").PN. | | 2000,00,21 05120 |
| - | 19 | | USPAT | 2003/03/14 09:19 |
| | | "5302219" "5442852" "5611884" | | |
| | | "5637832" "5658827" "5691245" | | 1 |
| | | "5744758" "5817404" "5902686" | i | l . |
| | | "5925930" "6107180" "6143116" | | |
| | | "6181569" "6187680" "6192579" | | 1 |
| | | "6341417").PN. | | 1 |
| - | | 5902686.URPN. | USPAT | 2003/03/14 09:28 |
| - | 3 | | USPAT | 2003/03/14 09:31 |
| - | 10 | ("4927505" "5137845" "5369299" "5563102" "5736456" "5773359" "5902686" "5903058" "5904859" | USPAT | 2003/03/14 09:32 |
| | | "6015652").PN. | | i |
| - | 6 | 5904859.URPN. | USPAT | 2003/03/14 09:35 |
| - | 3 | ("5773359" "5904859" "5985694").PN. | USPAT | 2003/03/14 09:38 |
| - | 3 | ("5773359" "5904859" "5985694").PN. | USPAT | 2003/03/14 09:39 |
| _ | 5 | ("3809588" "4396900" "4434434" | USPAT | 2003/03/14 09:39 |
| | 40 | "4747907" "5503286").PN. | / | |
| - | 18 | ("3887760" "4921157" "4950623" "5048744" "5152451" "5160409" | USPAT | 2003/03/14 09:41 |
| 1 | | "5162257" "5167361" "5293006" | 1 |) |
| | | "5327013" "5407121" "5415944" | 1 | 1 |
| | | "5470787" "5499754" "5617989" | | |
| | | "5629564" "5641113" "5767010").PN. | 1 | |
| _ | 501 | (ubm (under nearl bump nearl metallurgy)) | USPAT: | 2003/03/14 09:50 |
| | 001 | (and (and india bank near metaliary)) | US-PGPUB; | 2000,00,11 03.00 |
| 1 | | | EPO; JPO; | i |
| | | | DERWENT | |
| - | 50 | ((ubm (under near1 bump near1 | USPAT; | 2003/03/14 09:51 |
| | | metallurgy))) near3 (titanium chrome | US-PGPUB; | |
| | | nickel platinum) | EPO; JPO; DERWENT | |
| - | 102 | ((ubm (under near1 bump near1 | USPAT; | 2003/03/14 09:51 |
| | | metallurgy))) with (titanium chrome nickel | US-PGPUB; | |
| | | platinum) | EPO; JPO; | 1 |
| | | | DERWENT | 1 |

| L Number | Hits | Search Text | 1.70 | |
|----------|------|------------------------------------|-----------|------------------|
| 1.9 | 5 | ("5894410" "5990547" "6169329" | DB | Time stamp |
| | - | "617E160" + "C4120E1" | USPAT | 2003/03/14 13:43 |
| 20 | 0 | "6175160" "6413851").PN. | | |
| 119 | 0 | 6501185.URPN. | USPAT | 2003/03/14 13:43 |
| 113 | 32 | "5767010" | USPAT: | |
| | | | | 2003/03/14 16:12 |
| | | | US-PGPUB; | |
| 1 | | | EPO; JPO; | 1 |
| 120 | 1 | 5767010 | DERWENT | |
| | | 5767010.pn. and "42" | USPAT: | 2003/03/14 16:14 |
| | i | | US-PGPUB; | 2003/03/14 16:14 |
| 1 | | | EPO; JPO; | |
| | | | | |
| 121 | 1 (| 5767010.pn. and (tin lead) | DERWENT | |
| 1 | - 1 | overere.pm. and (cin lead) | USPAT; | 2003/03/14 16:14 |
| 1 | | | US-PGPUB; | |
| | | | EPO; JPO; | 1 |
| | | | DERWENT | 1 |